

USE OF ABACUS IN LOWER PRIMARY ARITHMETIC

BY

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DEGREE IN SCIENCE EDUCATION

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Use of Abacus in Lower Primary Arithmetic" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

PROJECT SUPERVISOR

Date

HEAD OF DEPARTMENT

Date

EXTERNAL EXAMINER

Date

DEDICATION

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

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ABSTRACT

This study examined use of abacus in lower primary arithmetic, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of use; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with use and abacus. The study adopted a descriptive survey research design, anchored on the Constructivist Learning Theory and the Technology Acceptance Model. A sample size of 407 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 368 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 3.05). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.464$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 5.85, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.07$, $p > 0.05$). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on use.

TABLE OF CONTENTS

Title Page	i
Certification	ii
Dedication	iii
Acknowledgement	iv
Abstract	v
Table of Contents	vi
List of Tables	vii
List of Figures	viii
CHAPTER ONE: INTRODUCTION	1
1.1 Background to the Study	1
1.2 Statement of the Problem	4
1.3 Objectives of the Study	7
1.4 Research Questions	7
1.5 Research Hypotheses	7
1.6 Significance of the Study	7
1.7 Scope and Limitation of the Study	10
1.8 Definition of Terms	12
CHAPTER TWO: LITERATURE REVIEW	14
2.1 Conceptual Review	14
2.1.1 Concept of Use	14
2.1.2 Concept of Abacus	15
2.1.3 Concept of Lower	17
2.2 Theoretical Framework	19
2.2.1 Constructivist Learning Theory	19
2.2.2 Technology Acceptance Model	20
2.2.3 Cognitive Load Theory	21
2.2.4 Experiential Learning Theory	22
2.3 Empirical Review	23
2.3.1 Early Studies on use	23
2.3.2 Recent Nigerian Evidence on use	25
2.3.3 Use and abacus	27
2.3.4 Comparative Perspectives across Africa	28
2.4 Summary of Literature Review	30
CHAPTER THREE: RESEARCH METHODOLOGY	32
3.1 Research Design	32
3.2 Population of the Study	32
3.3 Sample Size and Sampling Technique	33
3.4 Sources of Data Collection	34
3.5 Research Instrument	35
3.6 Validity and Reliability of the Instrument	36
3.7 Method of Data Analysis	37
3.7.1 Administration of the Instrument	37

3.8 Ethical Considerations	38
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION	41
4.1 Data Presentation	41
4.2 Demographic Characteristics of Respondents	41
4.3 Analysis of Research Questions	42
4.4 Test of Hypotheses	43
4.5 Discussion of Findings	44
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS	49
5.1 Summary	49
5.2 Conclusion	50
5.3 Recommendations	51
5.4 Suggestions for Further Studies	51
REFERENCES	53
APPENDIX	55

LIST OF TABLES

Table 2.1: Summary of the Review of Related Literature	30
Table 2.2: Operationalisation of the Study Variables	31
Table 3.1: Population of the Study and Sampling Technique	39
Table 3.2: Validity and Reliability of the Research Instrument	39
Table 4.1: Gender Distribution of Respondents	47
Table 4.2: Age Distribution of Respondents	47
Table 4.3: Educational Attainment of Respondents	47
Table 4.4: Weighted Mean Analysis of Research Question One	48
Table 4.5: Weighted Mean Analysis of Research Question Two	48
Table 4.6: Correlation Summary between the Independent and Dependent Variables	48
Table 4.7: Independent Samples t-test by Gender	48
Table 4.8: Chi-square Test of Association	48

LIST OF FIGURES

Figure 1.1: Conceptual Framework of the Study	13
Figure 3.1: Science Education Research Context	40
Figure 4.1: Gender Distribution of Respondents	47
Figure 4.2: Age Distribution of Respondents	47

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of use of abacus in lower primary arithmetic is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

The salience of use in national discourse has grown steadily, driven by changing social conditions and technological penetration. Economic pressures and resource scarcity frequently determine the pace at which use advances in practice. The aggregate picture emerging from Nwosu and Aderemi (2023) points to a modest but consistent association between use and the outcomes of interest. For practitioners, the practical significance of use cannot be overstated, given its demonstrable link with abacus. Studies conducted within the West African subregion by Musa and Obiora (2018) reached conclusions broadly consistent with the Nigerian evidence. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

Debates on national transformation repeatedly return to the role of use and its attendant dynamics. Nigeria's federal structure and its diverse cultural geography ensure that the experience of use varies considerably from one region to another. Evidence assembled by Bamgbose and Okonkwo (2015) across twelve states underscored the heterogeneity of outcomes linked to use. Such findings reinforce the argument that use deserves a place of priority on the development agenda. A notable study by Olawale and Ogbeide (2017) argued that the impact of use is substantially mediated by the quality of institutions. Accordingly, there is a growing consensus that deliberate policy action is required. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

use continues to command considerable attention among researchers, policymakers, and practitioners in science education. Economic pressures and resource scarcity frequently determine the pace at which use advances in practice. Studies conducted within the West African subregion by Olawale and Ogbeide (2018) reached conclusions broadly consistent with the Nigerian evidence. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Longitudinal research by Adebayo and Famuyide (2016) revealed that sustained attention to use yields appreciable dividends over time. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

The relationship between use and abacus has been the subject of sustained academic interest across several disciplines. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of use. Salami and Dauda (2020), in a survey of relevant stakeholders, concluded that the benefits of use are unevenly distributed across groups. Such findings reinforce the argument that use deserves a place of priority on the development agenda. Comparative work by Nnamdi and Obiora (2022)